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EDITORIAL

THE PHYSICIAN, THE ARMY, AND THE CIVIL POPULATION.

There must be a great readjustment of medical practice in the months to come. War has disarranged almost every phase of the professional activities of physicians. Medical colleges, hospitals, industries which employ doctors, and the civil population have felt the pressure of deprivation of the services of normal times.

The military demands, of necessity, have drawn upon the medical profession irrespective of any consideration of other needs, because

the first and most important thing has been a proper and adequate provision for the army and navy organizations. The wave of early drafts on the profession has not yet spent its force, and, with the new man-power law, a still greater proportion of doctors must qualify for military service. What number may ultimately remain at home cannot yet be calculated.

With an army of four million there will be needed something like forty thousand medical officers. Of these there are enrolled already about twenty-five thousand. Aside from the actual needs of the troops, overseas and in process of organization, there will be various activities related to the operation of army preparation in which medical men will be needed. While it is true that a considerable part of such service may be performed at the same time that civil obligations are being fulfilled, with the growing ramifications of related services, there will be an increasing demand for doctors. The effort is being made to conserve the medical schools for teaching students, and there is every indication that the students themselves will be directed to continue at college so as to provide the material for making medical graduates, but the outlook is none the less far from encouraging.

Hospitals everywhere are short of interns, and their visiting staffs have been depleted as well. At the same time, the loss of some 20 per cent of the profession from the community generally has made the work of those who remain much more onerous. The division of time in hospital and civil services is more difficult than formerly. The needs in the large cities increase all the time, and there is no considerable supply of physicians in the cities upon which the country districts, also sorely in need, may draw.

The Volunteer Medical Reserve Corps has opened a way for adjusting the regularity of distribution of service throughout the country by arranging for a proper classification of all physicians who are not privileged or able to do entire military service. When the whole country has been surveyed and the doctors card-indexed for service the need of one community may be met by the distribution of men from those communities better supplied. This will not entirely meet the situation, although it is a temporary succedaneum.

The individual State has not appeared to concern itself much in this question; perhaps it may not be amiss to connote the fact that most States do not concern themselves at any time with matters related to the medical profession. This whole question, however,

is not one of the medical profession, for it concerns the general public much more than it does the class of medical men, whether they are taken collectively or as individuals.

The State Committees of Defense have actively considered the supplies of food and of other material things. It properly has maintained a busy interest in industries. Many activities within the State have come to the notice of such State committees. The essential and entire problem of the health of the people has not been a serious part of their work. The boards of health perform a large function, within their province of regulating the sanitary conditions of communities and in the prevention of disease, but these health officials have nothing to do with the care of the sick.

In every well-organized State there exists a fundamental and constitutional provision for State medicine. This usually includes all hygienic provisions under the direction of health boards and regulated by sanitary codes. It also provides for the enactment of laws which regulate the right to practice medicine, and it, moreover, fixes the obligation of the doctor to the State, which compels the payment of a tax or license to engage in the pursuit of the calling or occupation of a physician.

In return, the physician enjoys the privileges of a citizen and the legal right to practice. Through the corporation laws of the State, he may, with others, organize an association for the betterment of the profession. There is nowhere a combination of the profession and the people for the care of the sick—except as provided in proletariat institutions.

The time is ripe for State supervision and provision for the care of the sick outside of hospitals.

The idea is not new. The JOURNAL has discussed the point for the past fifteen or twenty years, but hitherto only academically; it is time now to put the ideas into practical application.

There are communities in all States now having no physicians in their midst; in some instances the physician is twenty or thirty miles away, and then too busy with his immediate community to be able to respond to an emergency at the minute he may be called. There are many persons able to pay small fees who find it difficult to get the attention they may need, because those better-to-do may have the first bid and call for the doctor.

The provision of doctors by the State for the needful services where they are most pressing seems a present solution.

A State medical service bureau could be organized and made effective in short order. All physicians engaged should be put on a civil service basis and regularly examined at intervals to determine their continued fitness. Such physicians might and should be paid reasonable living salaries, with an increase for relative rank in office and for time of service.

Such a State bureau of medical service would permit a prompt response to the need of any community—for a medical officer of the State could be sent to any community, to stay there until the needs of the place were satisfied.

There are enough medical men debarred from military duty to satisfy a fair-sized list of such emergencies, and when the war is over such a plan of health service for the sick may have proven itself sufficiently useful to become permanent.

WAR NECESSITY.

In order to obey instructions from the War Industries Board regarding conservation of paper, beginning this month the JOURNAL has had to reduce its size and change its style of make-up.

While coöperating with the Government in every patriotic move, we hope to avoid any inconvenience to our patrons, and feel that they will be with us in doing everything to help "win the war."

ORIGINAL ARTICLES

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

SODIUM CITRATE IN THE TREATMENT OF PNEUMONIA, WITH REPORT OF CASES.*

By W. H. WEAVER, M. D., New Orleans.

In a paper on this subject, published in the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL, September, 1912, we showed that lysis could be induced in pneumonia by the administration of massive doses of sodium citrate.

Upon closer study of the temperature curves of a larger number of patients recovery seems to be by a mild form of crisis—that is, in many of the cases—without the usual high temperature and distressing conditions preceding the descent to normal. It seems that this form of treatment has not received the recognition we think it deserves, and we wish to give further evidence of its value.

Regarding the action of sodium citrate, it was shown in the original paper that it increases the fluidity of the blood, also its alkalinity, its antitoxic power and leucocytosis. Hence, it aids the natural physiological forces at work in the cure of the disease. Increased fluidity is necessary for the freer circulation of the blood through the solidified lung. Increased alkalinity increases antitoxic power as well as leucocytosis, while decreased alkalinity checks, if it does not completely destroy those important functions of the blood.

Reliable observations made by Lee, Dochez and others seem to show that the coagulation time in pneumonia is delayed, and viscosity is probably also reduced. This delay in coagulation time and reduced viscosity is as it should be, else there might be no recovery from pneumonia. We have during the hepatization of the affected area the deposit from the blood of a considerable portion of its fibrin. We would naturally expect that there would be less fibrin-forming elements left in the blood, and increased fluidity would be the result. High viscosity and coagulability at this time

* Read at the 39th Annual Meeting, Louisiana State Medical Society, New Orleans, April 16, 17, 18, 1918.

would certainly not conduce to rapid recovery, while that condition of the blood did, no doubt, exist previous to and during the first stage of the disease. Hence, the more fluid the blood, the freer will be its circulation with the leucocytes and antitoxins through the lung capillaries.

After a few days, antitoxins have formed in the blood to a considerable extent. But if the circulation of the blood through the almost solid lung is not in some way facilitated by a sufficiently strong pressure, together with increased fluidity of the blood, there will be no recovery from pneumonia.

In this connection, the treatment of boils and carbuncles by use of sodium citrate as outlined by Sir Almroth Wright might be mentioned in support of this antitoxic and phagocytic stimulation in the presence of sodium citrate. Hence, from almost any point of view, the treatment by sodium citrate accords with known scientifically demonstrated truth.

Some potassium salts may have a similar action on the blood, but also have a depressant action, which excludes them from consideration, while sodium citrate can be tolerated in very large and continued doses without any disagreeable effects, except occasional catharsis, which should be controlled by an opiate without reducing the dose.

Sodium citrate is a salt of feeble alkalinity and may be given in sufficiently large doses to produce its effect without the least danger of harm, or even discomfort to the patient. Its taste is not disagreeable, nor does it disturb the gastric functions or appetite, and might be given in doses of one drachm every two hours if that much were considered necessary. It may be given with a little citric acid or lemonade in small quantities. The dose for an adult we have found to be forty grains every two hours. For children, the dose should be calculated from that amount.

Active catharsis should be established at the beginning of the treatment, as it will stimulate the protective glandular mechanisms. However, if the cathartic action of the sodium citrate appears, it should be checked and the dose maintained, rather than reduced.

If the fever is found to be very high and other symptoms alarming, bathing or a few doses of acetyl salicylic acid may be given until the temperature falls. In most cases, especially in children, the temperature, pulse and respiration will fall to normal inside of seventy-two hours. The clearing-up process in the lung is com-

pleted a little later, and until it is completed the citrate must be continued at the same dosage.

If there is no improvement in six to twelve hours, the dose may be increased, or given every two hours instead of every three hours. In adults, improvement often does not begin until the third day, or later if the dose has been inadequate.

It is highly probable that some who have tried this treatment and have been disappointed in its results have not given the citrate in large enough doses. In an adult, forty to sixty grains every two and a half to three hours must be continued day and night until the lung has entirely cleared. If the citrate is discontinued before complete resolution there will be an immediate relapse. This relapse will again clear away under the influence of the citrate. This will be absolute proof that the citrate is responsible for the recovery of lysis.

The cases reported at this time include my own, those of Dr. A. C. King and some by Dr. J. E. Pollock and Dr. E. L. King.

Ten cases were reported in the original paper, all of which recovered by lysis induced by the administration of sodium citrate. All of these cases reported in this paper, twenty-seven in number, recovered in the same manner.

It was our intention to wait until we had a much larger number of cases; however, we have recently had some successes that have made us more enthusiastic than ever, and have decided not to wait for the larger number.

We have employed the treatment in a few cases that are not included here. For example, in a case of terminal pneumonia—patient aged 91 years—we were able to induce her to take her medicine for about four days, when she rebelled and the treatment was discontinued. She appeared to be showing much improvement until the pulmonary obstruction proved too much for her weakening heart.

There are, no doubt, other limitations to this line of treatment. Cases known as septic pneumonia may not be amenable to the treatment, but we have had none, and we would be interested in seeing it tried out.

The first two cases reported are of post-operative pneumonia occurring in the Charity Hospital wards of Drs. E. D. Martin, A. C. King and M. H. Maguire.

Case 1—H. S. Nephrectomy for sarcoma of left kidney by Dr. E. D. Martin, assisted by Dr. M. H. Maguire, February 20, 1913; hemorrhage

extensive, requiring four pints of saline infusion on the table, followed by Murphy drip for forty-eight hours; developed pneumonia of the left lobe on the 21st. Sodium citrate in forty-grain doses was ordered every two hours; mustard locally and small doses of strychnia. Temperature went to 103.8° on the 24th, 103° on the 25th, and 102.8° to normal on the 26th; a mild crisis in about five days. The patient continued to decline, and died on March 5. Drs. Martin and Maguire considered it remarkable that this patient recovered at all from the pneumonia, considering the fact that her condition was extremely critical from the day she entered the hospital, and nephrectomy was done in the hope of giving relief. Her death was due to exhaustion, since she vomited nearly every kind of food given from the day of operation.

Case 2—R. H., age 50. Posterior gastroenterostomy performed February 3 by Dr. E. D. Martin, assisted by Dr. King, for carcinoma of the pylorus. Patient did nicely until February 6, when pneumonia, involving the entire lower lobe of the left lung, developed. Patient at once put on forty-five-grain doses of sodium citrate every two hours, and mustard plaster over affected lung. On the 9th the temperature began to drop by lysis, reaching normal on the 12th. Lung cleared up promptly and patient discharged on the 25th.

Case 3—R. S., age 4. Dr. A. C. King saw this case on the afternoon of the second day, May 7, 1913, and found the temperature 102.°, respiration 70, pulse 160—a case of broncho-pneumonia, with mild delirium. Two grains of Dover's powder were given at night for excessive restlessness. Sodium citrate, fifteen grains, was given every three hours until temperature began to fall, when the dose was reduced to ten grains. Mustard jackets three or four times a day and alcohol rubs were employed. The temperature rose to 103.4-5° the evening of the second day, after which it gradually subsided to normal on the evening of the fourth day. Patient was well on the fifth day.

Case 4—Angelina Caredi, age 7. Dr. W. H. Weaver saw this patient May 5, 1913. Patient had whooping-cough for three weeks and fever for three days before calling a physician. Pneumonia of the left lower lobe was found. Temperature 104.6°, pulse 144, respiration 40; bloody expectoration and labored breathing. Sodium citrate in fifteen-grain doses was given every two hours. Temperature subsided on the second and third days, and remained normal after the fourth day of the treatment.

Case 5—Wm. Lignon, age 10. Was taken ill June 1, 1913. Pneumonia developed on the 4th, involving the right lower lobe. Temperature 105°, pulse 120, respiration 34. Sodium citrate was given in fifteen-grain doses every two hours, the temperature falling rapidly during the night of the 7th, to normal on the 8th.

Case 6—Mary Decorti, age 4 years. Broncho-pneumonia, January 10, 1914. Patient had severe cough for about a week, when she became rapidly worse—drowsy and breathing rapidly. When seen she had temperature 102½°, pulse 140, respiration 66. Placed immediately on sodium citrate, ten grains every two hours. On the third day she had entirely recovered.

Case 7—Mary Bivona, age 3½ years. Broncho-pneumonia, February 10, 1914. Temperature 103.2-5°, pulse 120, respiration 45. Ten grains of sodium citrate given every two hours brought temperature to normal by evening of the second day.

Case 8—Willie Graham, age 6. Lobar pneumonia, right lower lobe.

Trouble began February 16, 1914, with considerable pleuritic pain over the right lower lobe. Temperature 104° pulse 132, respiration 50. Sodium citrate, fifteen grains, every three hours. Patient recovered on the fourth day.

Case 9—J. Ryan, age 65. Pleuro-pneumonia. February 20, 1914, was taken ill with severe pain in left side. Temperature, when seen on the 21st, was 102.2-5°, pulse 108, respiration 30. Strapping was applied. On the 22d, still complained of the pain; cough and rusty sputum; most of lower lobe on left side was solid. Sodium citrate in thirty-grain doses every two hours was given, with morphin for the pain. Solidified area extended to upper lobes. Patient did badly until March 4, when he died, without signs of improvement. This patient had been a very hard drinker all his life, and we could hadly expect any other result.

Case 10—Christ Harris, age —. Lobar pneumonia, March 8, 1914. Patient seen evening of the first day by Dr. A. C. King, having a temperature of 104°, pulse 132, and respiration 48. Sodium citrate was given in twenty-five-grain doses every two and a half hours, causing a gradual reduction of temperature to normal on the night of the fourth day.

Case 11—Angeline Caredi, age 8, was seen on March 14, 1914, by Dr. King. Found the temperature 102.2-5°, pulse 136, respiration 40, with broncho-pneumonia following measles. The left lower lobe was largely affected with patches in the right lung. Sodium citrate was given every two and a half hours, temperature rising to 103° on the third day and normal on the evening of the fourth day.

Case 12—W. Zevengue, age 6, was seen by Dr. King, June 8, 1914, on the second day of his illness, having a temperature of 104°, pulse 136, respiration 50, and partial consolidation of the left lower lobe. He was given seven and an eighth grains of sodium citrate every two and a half hours, which had no effect on his condition. On the night of the fifth day of the disease the temperature was still 104°, pulse 148, respiration 60. The dose was increased to fifteen grains. The temperature, pulse and respiration came to normal on the night of the seventh day of the disease.

Case 13—Lobar pneumonia. Mary Domino, age 11 years, was seen by Dr. Weaver, February 28, 1914, having a chill, with temperature of 104°, pulse 120, respiration 36. Sodium citrate was ordered in twenty-grain doses every two and a half hours. A few doses only were given, with a reduction of the temperature to 102°. No medicine was given on March 2, which was the third day of the disease, temperature rising to 104°. At the morning call it was insisted that the medicine be given regularly night and day until complete recovery. The temperature, pulse and respiration went to normal on the fifth day of the disease, by what appeared to be a mild crisis.

Case 14—Broncho-pneumonia. Robt. Williams, age 6, was seen by Dr. J. E. Pollock, November, 1913. Cough and fever began two days previous to calling the doctor. Now dullness over right lower lobe. Temperature 102°, pulse 140, respiration 50. Sodium citrate was given every two hours in ten-grain doses. Patient was discharged as cured on the 21st, after two days of treatment.

Case 15—Lobar pneumonia. Helen Smith, age 18 months, was seen by Dr. J. E. Pollock, January 30, 1914, having a temperature of 102°, pulse 140, respiration 60. Sodium citrate was given in fifteen-grain doses every two hours. January 23 the temperature was normal and recovery uneventful.

Case 16—Helen Harvey, age 14 months, was seen by Dr. Weaver, April 8, 1914, having a broncho-pneumonia affecting mostly the left lower lobe. Temperature was 104°, pulse 140, respiration 66. Sodium Citrate was given every two and a half hours. The temperature went to 105° on the third day and night, when the dose was every two hours. On the fourth day the temperature came to 104°, on the fifth day to 102.8°, on the sixth day to 99°, and on the morning of the seventh day to normal.

Case 17—J. Wall, age 18, was seen by Dr. Weaver on April 28, 1914, having become ill the day before, with a temperature of 104½°, pulse 120, respiration 45, complaining of much pain over the right lower lobe. April 28, sodium citrate in thirty-five-grain doses was given every two hours. April 30, the temperature was 103°; May 1, 102½°; May 2, 97½°, with pulse of 66.

Case 18—Lottie Kraft, age 14, was seen by Dr. Weaver, September 26, 1916, having a temperature of 104°, pulse 120, respiration 32; having a slight cough, but examination of the lungs was negative; pneumonia suspected. Gave wine of ipecac, five minims; sodium citrate, fifteen grains every three hours, and calomel purge on the 27th, when the temperature was 99½° in the morning; evening temperature, 101½°. September 29, examination showed invasion of the left lower lobe. Sodium citrate was increased to twenty grains every two hours. Temperature 101½° evening till October 3, when it fell to 99°, and October 5 to normal.

Case 20—Salome Kappler, age 26, was seen by Dr. Weaver on October 16, 1916, having temperature of 103°, pulse 108, respiration 34, with pain in the right side. October 27, temperature 102½°. Examination showed crepitant râles over left lower inch of left lower lobe. Sodium citrate was given every three hours in thirty-grain doses. October 18, complete invasion of the lower lobe, with rusty sputum, and evening temperature 102½°. October 19, the fourth day, the temperature was 101½°; October 20, temperature 100.1-5°; October 20, normal. Recovery was complete on the sixth day.

Case 20—Madeline H. Behenna, age 3 years, as seen by Dr. Weaver, October 17, 1916, having a temperature of 102°, pulse 110, respiration 48; cough, and râles over both lungs. Sodium citrate was given in five-grain doses every three hours. Temperature went to 103° on the 18th, 103½° on the 19th. On October 20, sodium citrate was increased to ten grains every two hours. On the 21st the temperature, after having been around 103½° until afternoon, went to 102° in the evening. On the 22d the temperature was 100½°; on the 23d it was normal, and remained so.

Case 21—Miss Fleury, age 16 years, a patient of Dr. King's, January 16, 1917, developed pneumonia of the left lower lobe, having a temperature of 99½° the first evening, 101½° the second morning, 100° the third day, 99½° the fourth, and normal the fifth, under twenty-grain doses of sodium citrate.

Case 22—Charlene Martin, age 5 years. September 13, 1917, broncho-pneumonia, with temperature of 103½° the second morning, 103° the third morning, and 103½° the fourth morning, when thirty grains of sodium citrate were begun every two hours. Respiration 48, pulse 136. The fifth day the temperature came to 101½°; the sixth, 100½° in the morning, and 99° in the evening; normal on the seventh day.

Case 23—Sidonia Irvine, age 33, weight 215 pounds, seen November 21, 1917. Had been ill, with high temperature, three days before the treatment was instituted. Temperature 103.1-5°, pulse 132, respiration

45. Pneumonia of the right middle and lower lobes, derilium, labored breathing, cough, with rusty sputum. Sodium citrate in thirty-grain doses was continued night and day. Temperature fell quite rapidly from 103.1-5° to 99° in about thirty-six hours, and to normal in another thirty-six hours.

Case 24—Marjorie Huber, age 15. Pneumonia of the left lower lobe, with pleuritic effusion. This patient has had a severe case of mitral disease, with large hypertrophy and dilatation, following an acute attack of rheumatism when about seven years of age. Her condition was so distressing that it was deemed absolutely necessary to take her to the hospital in order to give her a chance for her life. Accordingly, on the fifth day of her illness, she was sent to Hotel Dieu. About twelve ounces of the pleuritic effusion were removed, after which her respiration was easier, at about 30, and pulse 120. Deep-seated pneumonia had been suspected for the two previous days, and was now fully developed.

Treatment included mustard jackets, strychnin sulphate, 1-50 grain every six hours, and sodium citrate, twenty grains every three hours. The temperature varied between 104° and 100° until the tenth day, when forty grains were given every two and a half hours, after which it averaged lower until the thirteenth day, when it came to normal, and remained there. In addition to the above, fifteen drops of tincture of digitalis were given at night. She remained in the hospital for nineteen days. The first four days of her treatment she received twenty grains of citrate every three hours, and made no improvement, until the dose was doubled and given every two and a half hours. In four days the temperature was normal. Our judgment in this case was that the pneumonia would be fatal, and no hope was had until after the citrate was increased to forty-grain doses, when she made a rapid and uneventful recovery.

Case 25—Florence Leblanc, age 2 years, was ill four days when first seen, February 1, 1918. Her temperature was 103.3-5°, pulse 140, respiration 60, and extremely labored and jerking; drowsy, and apparently in a very desperate condition. Fifteen-grain doses of sodium citrate were ordered every two hours, night and day. On the third day the temperature had come to normal and cough not troublesome, but continued, with evening temperature for four days longer before recovery was complete.

Case 26—Baby Ruiz, age 19 months, a near neighbor of Case 25, was in exactly the same condition, except that the temperature ran higher by one degree. Fifteen grains of the drug were given every two hours, with precisely the same effect as in Case 25, except that complete recovery occurred sooner.

Case 27—Reported by Dr. E. L. King. C. Dunecelli, boy, 8 years of age. When called, found consolidation of the left lower lobe, temperature ranging about 104°. Sodium citrate, five grains every two hours, induced rapid recovery, with normal temperature, by the fourth day.

Together with the ten cases previously reported, we have thirty-six cases of rapid recoveries from a disease which we have all known as serious and fatal in at least 80 per cent of the cases.

In the cases of terminal pneumonia of the aged, we do not expect recovery; however, a pronounced improvement in the condition of the patient may be seen.

In broncho-pneumonia the dosage must be larger than in the lobar type, owing to the difference in the character of the disease, the whole bronchial system being involved in the violent inflammatory action, as compared with the localized blocking of a portion of one lung. While some of the cases of broncho-pneumonia will recover quickly on a medium dose, others will require the dose to be greatly increased, when the recovery will be quite as rapid. Recovery is largely a question of dosage.

A number—the usual percentage of these thirty-seven cases—by all the rules of prognosis should have been fatal. The morbidity in all of them was greatly reduced. This influence over the morbidity of the cases treated with sodium citrate is alone sufficient reason for its use, while the mortality rate must be demonstrated in systematic hospital practice.

Discussion on the Paper of Dr. Weaver.

Dr. John M. Barrier, Delhi: I would like to say a few words on this subject. I do not rise to approve or disapprove of this paper, but I just want to say a few things.

Doubtless some of you are familiar with the Bible story of David when he went out to meet the giant Goliath. Many of his friends suggested to him that he put on an armour, a new or the latest improved instrument of warfare, but David said, "I am going to take the instrument that I am most familiar with, and that is my old sling-shot." (Laughter.)

The point I wish to draw from that is this: As you are all aware, in studying the history of pneumonia from the time that the Father of our Country fell a victim of this disease to the present time, the mortality statistics have varied but little. Next year somebody will come here and read a paper advocating other medical treatment of diseases, and he may be able to produce as long an array of successful cases as the gentleman has done who has just read this paper. I do not wish to discredit his paper. I am glad that it has been read, for it gives us one more medicine to prescribe in pneumonia. (Laughter.) And the suggestion that I offer to you is that when you have failed in the remedies that you have been accustomed to, then use sodium citrate. I remember reading about this many years ago. I said to myself, "I am going to let well enough alone; I am going to stick to what I know and to what I am accustomed to," so that I have had other sling-shots that I have stuck to, and you all know, particularly those of you who have greater reputations as internists than I have, that if there is any disease on earth that is more fatal than pneumonia I do not know what it is, and more patients have been killed by overmedication in pneumonia than in any other disease. From the time of the death of the Father of our Country until this time the treatment of pneumonia has varied from bleeding to the use of expectorants and all nauseating medication that any human being has ever devised, and yet, after all, gentlemen, it is purely a matter of ventilation, sanitation and good common-sense, and it does not make much difference whether you use any drugs or not.

Dr. A. C. King, New Orleans: I do not think any subject so important as pneumonia ought to go by without a free discussion. There are three diseases that always appeal to the practitioner, one of which is typhoid fever, the other is appendicitis, and the other is pneumonia, and you can always create a discussion if you get the crowd started right.

I always feel, when it comes to the treatment of pneumonia, as an old friend of mine, who told me on one occasion that he had no trouble in making a diagnosis, but that he did have lots of trouble to find a medicine to fit the case. Most any one can make the diagnosis of pneumonia, but the great trouble is to find a medicine to fit the disease. Serum has not proved, so far, efficacious in diphtheria, scarlatina and some other diseases, so we will pass that by. I have noticed Rosenow has utilized pneumotoxin with pretty fair results. He has reported a few hundred cases in a recent issue of the **Journal of the American Medical Association.** That treatment is still in its infancy, but the article is entertaining.

In regard to the particular treatment Dr. Weaver has been using, I am perfectly free to admit that in the beginning I was skeptical, because I was in exactly the same predicament that Dr. Barrier is now—I do not see any sense in giving medicine to cases of pneumonia, particularly in cases of old people and alcoholics. We know the terrific mortality in cases of that type. Children will get well of pneumonia by themselves if you let them alone long enough and do not overmedicate them. Since I have been using this sodium citrate I have been much gratified with the result. You may say a child with pneumonia will recover anyhow. I will admit that, but the point is this: if you are able to shorten the time of illness in these little folks you shorten a great deal the trouble on the part of the parents and you have benefited the children. Now, if it is possible to bring about early resolution, as this particular medicine will do, and I can testify to it, you have shortened the time of sickness, and you have done that child a favor. You have doubtless noticed that in the reports of some of these cases resolution occurred on the third, fourth or fifth day.

The first case I saw of this type was a boy, fourteen years of age, with lobar pneumonia, and that boy was well on the fourth day. I have never seen that occur before. I am willing to confess that I was amazed at the rapidity of recovery. The secret is simply in the dosage and remembering that all it does is to lessen the viscosity of the blood. If anything will do that it will help, and that is the secret of the early convalescence.

One case Dr. Weaver did not finish reporting in detail was a case of double pneumonia with a bad heart and fluid in one pleural cavity. I know the fluid was there, because I aspirated about a pint of it. It was perfectly wonderful that this child recovered at all. I have never seen a case like that before or since. The child was in a critical condition from the first day we saw her, on account of the heart lesion. Both lungs are clear to-day and she is well, and I cannot explain it. We gave the child tremendous doses of sodium citrate, large doses of digitalis and good nursing.

I do not like to be skeptical of any particular medicine, but since I have been using sodium citrate I am satisfied that there is nothing in a medical line that is better. I have tried serum faithfully, but my results have not been satisfactory. I believe, however, if we could possibly combine outdoor methods of treatment with any medicine our results would be better. I am satisfied of that. The great trouble is that we

have not been able to induce our people to listen to us, as far as pneumonia is concerned, or any acute lung condition, like we have in converting them to the idea of being operated on early for appendicitis. People have been educated to undergo early operation for appendicitis. In the treatment of typhoid fever we are now using serum, better nursing and are using better food. You all know that in appendicitis we operate early in the acute cases, and operate between attacks in the chronic cases, and most of them get well. The time was when the mortality from appendicitis cases and typhoid fever was terrific. It is much better now, and I believe the time is coming when the mortality in cases of pneumonia will be materially improved by the use of sodium citrate, or possibly with the use of some serum that we are not as yet acquainted with.

Dr. R. L. Jones, Rayville: This is a timely subject. Considering the fact that during the past winter the general practitioner has had probably fewer cases of pneumonia and fewer complications than he has had in a number of years, I am glad to hear this subject discussed.

As my friend and co-worker, Dr. Barrier, has expressed it, there are a number of cases of pneumonia, and especially in children, that on the sodium citrate treatment or no treatment will terminate in crisis in a few days. But there are other cases, possibly due to a lowered condition of vitality, to a more virulent infection or to some other cause, in which it is purely a question of the conservation of the vital forces, and the sodium treatment in this class of cases, in my experience, will give you beautiful results in some instances. I have been using it for two years, but those cases that have a more virulent infection or very lowered vitality require something more than sodium citrate. It requires sustaining the vital forces.

I was glad to hear digitalis mentioned. If there is any one drug for which I have a most profound respect in pneumonia it is digitalis. In those long-drawn-out pernicious cases, especially if the infection is profound, alcohol in some form is beneficial. I prefer for my patients good whiskey, and if the temperature is high I give them digitalis and whiskey combined. I give them the open air, judicious feeding and careful nursing, together with carbonate of creosote, which will pull a patient through a protracted, tedious pneumonia, and you will avoid, in a number of instances, pus in the pleural cavity which you would otherwise have.

Dr. Charles L. Eshleman, New Orleans: I am very glad to have heard Dr. Weaver's paper on this subject. I have not tried the sodium citrate treatment. It has not been my sling-shot. I have no sling-shot for pneumonia. I approach a pneumonia case with the firm, fixed opinion that I am dealing with an acute, specific infectious disease, with the absence or presence of organisms circulating in the blood, and that something is going to happen in the next twenty-four hours or in the next three weeks that is going to neutralize these poisons, and I am depending upon that as to whether the patient is going to get well or die.

I am perfectly confident that I have seen cases of pneumonia get well in twenty-four hours by the neutralization of these poisons. How they are neutralized, I do not pretend to say. On the neutralization of these poisons depends the cure of pneumonia or death from it within twenty-four hours or two or three weeks. If sodium citrate in some way will assist the body, or it is going to help to neutralize these poisons that are causing the disease, it will give us good results.

I feel that in the next few years, through the work of Rufus I. Cole,

of the Rockefeller Institute, we will be furnished with a serum or an antitoxin which will neutralize the poisons in pneumonia. He has already isolated four different strains of pneumococci, and in strain No. 1 he has already been able to make a serum which so far has given the best results in the treatment of this disease, provided, of course, we are dealing with strain No. 1 in the particular case under treatment. If serum No. 1 is given to cases in which we have strain No. 3 or No. 4 as the infecting organism, we are not going to get results. So, I am looking forward to a valuable sling-shot from Dr. Rufus I. Cole in the treatment of pneumonia through serum, and I believe it is going to be the fact that all other infectious diseases will be cured by sera, and not by chemical or pharmaceutical products.

Dr. W. H. Weaver, New Orleans (closing): I do not know that I can add very much to what has been said. A question has been asked as to the mode of administration. We begin with a dosage of forty to forty-five grains every two or three hours. That can be combined with any vehicle you wish. If you want to give digitalis with it you can do so, or you can give it separately. There is no particular vehicle required for sodium citrate. Water is sufficient.

We know that the great majority of cases of children with pneumonia recover from the disease. I will admit that, but I had never been able, before I began the use of sodium citrate, to cure cases of pneumonia in children with as little trouble and with as little sickness and with as litttle worry to the parents and myself as I have been since I have been using it. The very fact that we can reduce the morbidity in the length of time the child is sick—or adult, either—convinces us that we are doing good. We know that sodium citrate increases the fluidity of the blood, makes it easier for it to be pumped through the solid portion of the lung, and it increases the antitoxic power. That was shown by Metchnikoff and others, and also its phagocytic power is increased. If you increase the acidity of the blood you check the antitoxic power and phagorytic action. This is plainly shown in the scientific investigations that have been made. If now we do increase the fluidity of the blood, so that normal antitoxins are developed in the blood in the course of a few hours or a few days, if we increase the circulation of that highly antitoxic blood through the lung, we hasten recovery. If now we inject antitoxin into the blood, at the same time giving sodium citrate, we can get favorable results. I believe it was that class of cases Dr. Rosenow failed to cure, but he has reduced the mortality in about one-half the cases he has been treating. If he adds sodium citrate to the treatment he is using, he will force the antitoxin into the lung and get better results.

SHELL-SHOCK—PSYCHONEUROSIS OF WAR.*

By C. S. HOLBROOK, M. D., Jackson, La.

In the summer of 1914 the inertia and the peace of the world were disturbed by a tremendous paroxysm, and forces were generated which will exert an influence on the human race for all times.

* Read at the 39th Annual Meeting, Louisiana State Medical Society, New Orleans, April 16, 17, 18, 1918.

Treaties have been considered worthless, national boundaries have been disregarded, wanton murder has been committed on land and sea, and, as a result, three-fourths of the human race is engaged in waging the most cruel and most nerve-straining war that the world has ever known.

In wars of remote, and even of recent times, the medical adviser and medical information have been given but scant consideration, and as a consequence disease caused far more casualties than did the missiles of war. The Spanish-American war is a sad but forceful reminder of the havoc disease has wrought in military projects. The medical division of the army organization to-day is larger in personnel and equipment, and is given a more important place in all military plans than ever before. As a result, the ratio of casualties from disease and from wounds has been reversed.

The war in Europe has brought to light several new diseases, and many old but rare maladies have appeared in such number and in settings so new and strange that they, too, without much analysis are often considered as quite new.

Hygiene and preventive medicine have largely controlled typhoid and other camp scourges. Surgery has seen many advancements, new principles and methods have been born, while antiseptic surgery and other methods long ago relegated to the discard have again become very important. In the realm of general medicine we see such new diseases as trench fever, trench nephritis and trench jaundice. In the province of nervous and mental diseases there has been as great or greater progress than in any other field. During the last three years a mass of literature pertaining to mental and functional nervous disturbances resulting from war-strain has accumulated, and from this information the following article has been abstracted.

This is the first war in which neurologists and psychiatrists have been called upon to play a major part. In the past the soldiers suffering from mental and nervous disturbances have been treated by the military surgeons in general or surgical hospitals; later, the chronic cases were sent to hospitals or asylums for the chronic insane. There is this notable exception: In the Russo-Japanese war mental diseases were separately cared for by specialists from the firing line back to the mother country. At present the neuropsychiatrists see patients in and shortly behind the trenches, and cases requiring their attention are sent to special hospitals, where

a very large percentage is cured and some even sent back to the firing line.

"Shell-shock" is a term that has been given to a variety of mental and functional nervous disorders and does not lend itself to scientific analysis, but, in the jargon of the trench and hospital, it is used to designate the functional nervous disorders resulting from the strain of war. The term is a blanket diagnosis, and all degrees of disturbance, from very mild hysteria to such psychoses as general paralysis, are often placed in the same category.

"Shell-shock" is not a new disease, but is a psychoneurosis, which has its counterpart in civil life in such conditions as hysteria, neurasthenia and psychasthenia. The functional neuroses and hysterical disorders following terrible accidents are similar to the psychoneurosis of war, the disturbances now called "shell-shock." The real importance of the medico-military problem cannot well be overestimated, since these disorders are responsible for not less than one-seventh of all discharges for disabilities from the British Army, or one-third of all discharges if discharges for wounds are excluded. Ten per cent of disabled soldiers who are sent to Canada suffer from mental and nervous disorders; the majority are "shell-shock" cases.

A few typical histories will be of interest at this point and will illustrate the characteristics of these disorders.

The following cases are given by Lieut.-Col. Mott:

Case No. 1. A captain, aged 20, was admitted in a state of restless motor delirium; he moved continually in bed, sat up, passing his hand across the forehead as if he were witnessing some horrible sight, and muttering to himself, yet, when interrogated, he answered quite rationally. This motor delirium was associated with the continuous effects on the conscious and subconscious mind of the terrible experiences he had gone through. His whole company had been destroyed, and while talking to a brother officer the latter had half his head blown off by a piece of shell. The patient improved very much, but a relapse occurred after a night disturbed by terrifying dreams. He recovered sufficiently within a week to go out.

Case No. 2. A man was sent down from the clearing station, February 10, 1916; he had been blown up and buried; he was blind, deaf and mute. He was sent from France to England, February 29. When first seen (by Lieut.-Col. Mott) he was lying in bed on his side, with his legs curled up. He took no notice of any sound, however loud; he did not speak; and he could not see. This was the condition noted while he was in hospital in France. Pupils reacted to light, nor did he reflexly close the eyes when a blow was suddenly aimed at the face. The slightest touch, however, aroused an immediate defensive movement or withdrawal of the part (showing a general hyperesthesia). He responded to the calls

of nature and did not wet the bed. The next day, while suffering from the pain of an enema, he somewhat suddenly regained his sight. He looked around in a bewildered manner, then burst into tears. The next day he was able to write. His powers of recognition were good, but he had a complete gap in his memory of the whole time he was in France.

Col. Wolfson relates the following case, among others, to show the neuro-psychopathic element:

Case No. 3. A corporal, aged 24, suffering from shell-shock, had been in active service two months when he was blown into the air by the detonation of a high-explosive shell. He was unconscious for ten hours, after which time he was dazed and suffered from marked tremors of the limbs, stuttering, frightful dreams and insomnia. His father was a psychasthenic and drunkard; his mother was alcoholic and finally committed suicide in a fit of depression; one brother had a "mental collapse"; another had "fits." One sister is a psychasthenic now, and two other sisters are nervous. One maternal cousin is an imbecile. The patient himself drinks to excess.

Capt. Elder reports the following case:

A soldier with one and one-half years' service felt great pain in the back and in the right leg two days after the great storms in Gallipolli, where he was in the trenches and up to his chest in water. The pain in his back improved, but the knee grew worse; it was flexed, stiff, every movement being attended by great pain. Skiagraph showed normal joint. He was brought into deep hypnosis when, under suggestion, he readily moved his knee in all directions. He walked the afternoon of the same day he was first hypnotized. The next day he was so restored that he danced. No further treatment was necessary.

H. C. Thomas gives the case of a man suffering from shell-shock who could read and write quite well, had no defect of speech, but had lost all his previous experience, and when taken to a zoo he attempted to stroke a lion and was ingeniously surprised to find that an elephant was larger than a cat.

Lieut.-Col. Meyers reports the following case:

A stretcher-bearer, eighteen months' service, was seen day after admission to hospital. Four days before admission he was "blown up" three times by "aero-torpedo trench mortars" while attending to the wounded in the trenches during an enemy attack. He said one had blown him "into the air," that another had blown him "into a dug-out," and that the third had "knocked" him down, but, nevertheless, he continued his work of carrying away the wounded. Two or three hours later, after he had finished, he was resting in a dug-out, when "everything seemed to go black" (probably he had a hysterical fit) and he became shaky, and remained so ever since. He appeared an honest and courageous lad, but was in a very nervous condition, making

irregular, spasmodic movements of head, arms and legs. There were well-marked coarse tremors and incoördination. The lightest touch of cotton-wool on the limbs and head provoked very lively movements; obviously he dreaded the next touch. A pin-prick started a series of most violent spasms, almost amounting to a convulsion. He also had visual hallucinations of bursting shells. Patient recovered in two months and returned to duty.

Mott points out that there are three effects of high explosives upon the central nervous system:

First. *Immediately fatal,* either from wounds caused by shell, rocks, etc., or the person may be buried by the explosion in a mine. Sometimes instant death has occurred in groups of men from the effects of shell-fire, yet no visible injury has been found to cause it.

Second. *Non-fatal wounds and injuries of the body,* including the central nervous system. (A large number of these cases do not show "shell-shock.")

Third. *Injuries to the central nervous system without visible injury.* This may happen through direct ærial compression or by throwing the soldier into the air or against the side of the trench, or by blowing a wall or a roof down on him, causing concussion. Also, he might be buried and partly asphyxiated or suffer from deoxygenation of the blood through carbon monoxide poisoning. High explosives contain great quantities of this and other poisonous gases.

The detonation of a high-explosive shell creates an ærial compression equal to about ten tons to the square yard, and Lord Sydenham concludes that the forces generated are sufficient to cause instantaneous death by shock to the vital centers of the floor of the fourth ventricle. Another theory of instantaneous death is that the *decompression* that quickly follows the tremendous ærial compression accompanying the detonation of a high-explosive shell is sufficient to cause bubbles of nitrogen and carbon dioxide to be liberated from the blood-stream and that these bubbles act as fatal emboli in the brain.

Considerable research has been done by Lieut.-Col. Mott to show the relation of carbon monoxide poisoning to certain cases of shell-shock. He says:

"Many of the symptoms of carbon monoxide poisoning are similar to those which I have observed in shell-shock with burial. It must not be supposed that, in poisoning by illuminating gas or carbon monoxide poisoning, recovery is always complete, nor that the mental symptoms are always only of a transient nature. It often takes months for the

effects of the poisonous action of carbon monoxide on the heart and nervous tissue to wear off, and in certain cases the damage is permanent.''

Mott has examined several brains from fatal cases of shell-shock and found them to correspond to the gross and micro-pathology of carbon monoxide poisoning, the principal lesions being punctate hemorrhages throughout the white matter of the brain. The fatal cases are very rare, so very little work as yet has been done along this line.

The present mode of warfare is quite different from what man has been accustomed to. The waging of war is not the chief occupation of man, but he has found it necessary to cross swords, to come to blows, in order to protect his rights. In the martial encounters of the past the opposing soldiers could at least work off their pent-up emotions in active service or in actual combat, but now trench warfare makes this quite the exception. Trench warfare subjects soldiers to such nerve-straining conditions as incessant bombardment, fear of death, the dread of fear, fear of being blown up or buried by a mine, horror, anguish, hunger, thirst and forced inactivity. Mott expresses it in this way:

''It must be obvious that, through all the sensory avenues, exciting and terrifying impressions are continuously streaming to the perceptual centers in the brain, arousing the primitive emotions and passions, and their instinctive reactions. The whole nervous system, excited and dominated by feelings of anger, disgust, and especially fear, is in a condition of continuous tension; sleep, the sweet, unconscious quiet of mind, is impossible or unrefreshing, because broken or disturbed by terrifying dreams. Living in trenches or dug-outs, exposed to wet, cold and often (owing to shelling of the communicating trenches) to hunger and thirst, dazed or almost stunned by the increasing din of the guns, disgusted by fould stenches, by the rats and insects; tortures of flies, fleas, bugs and lice, the minor horrors of war, when combined with frequent grim and gruesome spectacles of comrades suddenly struck down, mangled, wounded or dead, the memories of which are constantly recurring and exciting a dread of impending death or of being blown up by a mine and buried alive, together constitute experiences so depressing to the vital resistance of the nervous system that a time must come when even the strongest man will succumb, and a shell bursting near may produce a sudden loss of consciousness, not by concussion or commotion, but as acting as 'the last straw' in an utterly exhausted nervous system, worn out by the stress of trench warfare and the want of sleep.''

Most investigators have come to the conclusion that such predisposing factors as psychopathic and neuropathic constitutions are of more importance in causation of functional neurosis of war than is the final exciting cause.

Lieut.-Col. Mott refers to the characteristic make-up of nearly all of these cases of shell-shock. He writes:

"A large majority of shell-shock cases occur in persons with a nervous temperament or persons who were the victims of an acquired or inherited neuropathy; also, a neuropotentially sound soldier in this trench warfare may, from stress of prolonged active service, acquire a neurothenic condition. If in a soldier there is an inborn timidity or neuropathic disposition, or an inborn germinal or acquired neuropathic or psychopathic taint, causing a **locus minoris resistanciæ**, it necessarily follows that he will be less able to withstand the terrifying effects of shell-fire and the stress of trench warfare."

Capt. Wolfson, from a study of one hundred cases of war psychoneurosis and one hundred cases of somatic injuries produced on the firing line, comes to these conclusions:

"Cases of neurosis are very rarely associated with external or somatic wounds. The vast majority of the psychoneurotic cases studied were among soldiers who had a neuropathic or a psychopathic soil. In 74 per cent of these cases a family history of neurotic or psychotic stigmata, including insanity, epilepsy, alcoholism and nervousness, was obtained, while a previous neuropathic constitution in the patient himself was present in 72 per cent."

Landenheimer says that out of fifty-two cases of psychoneurosis there were in 90 per cent a predisposition, either by congenital constitution or by disease acquired before the war. Forsyth has found in all cases coming under his notice with symptoms which were more than mild and transitory a history of some earlier nervous troubles, slight or severe, was forthcoming. Capt. Eder did not find such a high percentage of neuro-psychopathic constitutions in the case of war-shock. In speaking of the British Army he says:

"In most cases the neurosis has arisen under the strain of quite extraordinary conditions. I would remind you that our army is not composed of fighting men, in the technical sense. The men come from the mill, the farm, the counting-houses, the country house; every trade is represented and every class. Thus, men brought up to a quiet avocation are suddenly, with scant training, called upon to make a new adaptation. In the stress and strain of their normal lives they would probably have been equal to any emergency. But for some—among the very best—the new conditions called out to them to strain themselves to the utmost, and that was just a little too much."

E. F. Buzzard has made the following division of the psychoneurosis of war, which is quite clear:

First. *Pure exhaustive cases.* These are men starting with an average allowance of resistance power, after a more or less pro-

longed exposure to the strain of warfare, become restless, irritable, depressed, sleepless and lacking in attention and concentration. Finally some crisis occurs and the patient's resistance entirely goes.

Second. *Patients who have inherited neuropathic and psychopathic tendencies and in whom the process of exhaustion have excited these dormant tendencies into activity.* This class constitutes a large part of the whole.

Third. *Martial misfits.* These men have been compelled to join the army by public opinion; they have posed as normal individuals, but they are quite aware they cannot stand the strain of warfare.

Also we must recognize the individuals who suffer from concussion as the immediate result of a too close intimacy with a shell explosion and who react in the same way as patients do to a severe blow on the head—*i. e.*, unconsciousness, easily tired, irritable, overreactive to auditory and visual stimulations, lacking in confidence and concentration, and often depressed.

The effects of shell-shock vary so very much in severity and the functional disorders are so numerous that in a short paper these effects or symptoms can be little more than touched upon.

Consciousness may be affected in all degrees, from a slight temporary disturbance to complete unconsciousness, with stertorous breathing continuing until death. Some cases exhibit fugue or automatic wandering of the epileptic. Numerous records are to be found of soldiers wandering in an unconscious state many miles behind the lines.

Memory is partially or completely lost in many cases. The amnesia may include all former experiences or only certain unpleasant events.

Speech defects are seen in a fair proportion of cases and vary from stammering to mutism. Aphasia is somewhat more frequent than mutism.

Hearing is very often completely lost, at least for a time, and deafness is frequently associated with speech abnormalities.

Many different affections of *vision* are seen, from slight smoky vision to complete blindness. The visual field is restricted in some cases.

Hyperesthesia and *anesthesia* are frequently met with. They are always regional in distribution and not anatomical.

Tremors are common, and constitute a serious disability. Various ties and rhythmic spasmodic movements are sometimes present.

Functional paralyses are not at all uncommon; monoplegia, hemiplegia and paraplegia occur in nearly equal ratio. The gait is affected in many different ways.

Phobias and obsessions are of the most varied kind, but comparatively rare.

The soldier's heart, or cardiac neurosis, is a condition that worries every medical man in the army, but is not a new disease or peculiar to war. It is very closely related to nervous strain, if not entirely due to this condition.

The *intestinal and respiratory* systems supply their quota of functional nervous disorders. In fact, every function is subject to derangement, and many symptoms appear in the same patient.

Dreams are very frequently seen; these are a source of emotivity and may even lead to the establishment of a frank neurosis. They present to the mind the horror of events connected with the war.

About the psychology of the functional neurosis, much that is absorbingly interesting might be said, but would consume too much space at this time; my allotted time is drawing to a close. Forsyth described the mechanism in these words:

> **"At the time of trauma, whether it is concentrated in a few moments or spread over days and weeks, the situation to be met derives its psychical importance from the fact that it involves the risk of death. Against this, the instinct of self-preservation rebels, employing as its weapon the powerful emotion of fear. And this, it is not superfluous to recall, is a natural emotion and, therefore, ineradicable; its function, like that of its physical counterpart, pain, is protective, dictating an immediate flight from the danger arousing it. In the face, therefore, of the prospect of sudden death, fear strains all its powers to enforce an escape, and it is to be coerced only by a still more powerful effort of the will."**

In a well and normal individual, this situation does not give rise to anything greater than the realization of a situation which is very dangerous, but in a soldier who is potentially neurotic, the unconscious mind, whipped by fear, adapts stronger measures and the patient may become blind, deaf, or develop some paralysis, thus allowing him, with all propriety and self-respect, to withdraw from a situation which had become intolerable.

TREATMENT.

At the beginning of the war the psycho-neurotic cases were all sent from the trench to the base hospitals, and then to England.

Recently this plan has been much altered, and these unfortunate men are treated comparatively close to the firing line. Special hospitals have been organized in the zone of activity and psychiatric wards have been added to the large general hospitals. The trend of treatment is to give rather intensified therapy near the front and to send to England only those cases that will not recover in a few weeks or a few months.

Adrian and Yealland say: "Indeed, the most important part of the treatment of a functional case consist in making up one's mind that the case is functional."

Psycho-analysis has a place in the treatment of shell-shock cases, but, owing to the time required and the considerable experience required on the part of the physician, this method of treatment can be used only in a few cases. The results are excellent.

Hypnotism had many advocates during the first years of the war and the results were good, but recently this practice has lost much of its popularity.

There are three principles involved in nearly all methods: First, suggestion; second, reëducation; third, discipline.

"The aim of suggestion (Adrian and Yealland) is to make the patient believe he will be cured, and to lead him on from this to the belief that he is cured. Reëducation brings the desired function back to the normal by directing it unitl the bad habit is lost, and disciplinary treatment breaks down the unconscious resistance of the patient to the idea of recovery." The same authors state:

> "Whatever form of treatment is employed, the patient must be convinced that the physician understands his case and is able to cure him. This idea should be fostered from the moment the patient enters the ward. The case is investigated as briefly as possible, and each physical sign is accepted as perfectly normal in the circumstances and not in any way interesting or obscure. The best attitude to adopt is one of mild boredom bred of perfect familiarity with the patient's disorder, and if the case has to be exhibted to any one else it is shown, not as anything unusual, but as a perfect sample of the type of case that is cured in five minutes by appropriate treatment."

The results of treatment have been quite variable. Percentages of cures have ranged from 26 to 98 percent. With appropriate treatment, given shortly after the neurosis develops, over 90 per cent should recover. Few of these patients should be sent to the firing line, where they will most surely have a recurrence, but should be discharged or assigned to home duty.

Discussion on the Paper of Dr. Holbrook.

Dr. L. Cazenavette, New Orleans: The subject discussed by Dr. Holbrook is one of great interest. He has told us that one-seventh of the discharges in the British Army of men coming from the front were due to nervous causes, and naturally men who are at the head of the American Army were not long to realize the great necessity of selecting men to send to the front. By this I mean that the men, before they are sent to the front, have gone through various systematic examinations, neurologically and mentally, to be sure that these men are fit for the immense strain that they are to meet on the firing line. The draft men, as they are examined, go through the local boards, and from there to the advisory boards, and are sent to the various cantonments, and there they are gone over by men particularly trained in neurological and mental lines, and if for some reason the men are not found to be particularly fit for that severe strain they are not supposed to be sent to the front. In other words, the thought to be conveyed on this subject is a serious one. The essayist has told us of the seriousness of the symptoms, and our officers are doing all in their power to prevent such a catastrophe in our own men at the front.

Dr. Carroll W. Allen, New Orleans: I have been requested by Dr. Holbrook to make a few remarks on his paper. The introduction of high explosives into modern warfare has opened up an entirely new field in military medicine. Volumes have been written on the subject, and there are a great many points that are not clear, and they will not be until the close of the war, for a thorough analysis of medical data cannot be made until it has been accumulated and carefully gone through, and then only can a satisfactory explanation be offered.

In thinking over this matter I have come to some conclusions that I hope will not be uninteresting to you. Shells weighing from a few pounds to a ton are filled with the highest explosives known to science. Shell concussion is a better name than shell-shock, and I believe ultimately will be the name and term used in these cases, because it is concussion that the patients are suffering from more than shock. Concussion better explains it. The results of the injury are anywhere from instant death to those immediately in the neighborhood of the explosion to various disturbances where you are just outside of the vital range, depending upon the size of the explosive and the distance away. The results may be nothing but a jolting of the nervous system, a little upset of the equilibrium, which may last only a few minutes or a few hours. Again, the result may be one of unconsciousness and may last for several days, from which the patient has headache, vertigo, amnesia, deficiency of speech, mutism, stammering, disturbance of vision, concentric narrowing of vision, double vision, disturbance of hearing, from total to partial deafness; motor disturbances, hemiplegia, paraplegia, etc. There may be sensory disturbances of a great variety, such as muscular tremors, twitchings, disturbances of the reflexes, analgesia and hyperesthesia, and paresthesia, loss of thermic sense, and along with these symptoms there is quite a variety of psychical disturbances.

Now, I come to my theory or explanation of it, and we are all entitled to an opinion, and if we reason along logical lines we are very likely to arrive at a satisfactory working hypothesis or satisfactory working explanation to explain this opinion.

When we consider the array of symptoms we realize that practically

the entire nervous system has been involved in some cases or in others. Let us consider what takes place in a violent explosion. If anybody has been near one and has not been so unstrung or disturbed, he has not been able to have a fair idea of his impression. There is at first a tremendous rush of air, followed in a few moments by a recoil and a rush towards the center of explosion. This tremendous displacement of air acts as a shock. If it strikes with sufficient force, the shock may envelop the whole body in some instances. You receive a sudden blow on the side of the head, or there may be an instant between the time of the blow you feel on one side, and the other not beginning for some days. This may be explained as to whether the patient's right side was towards the force, or the left side, or front of the head, or the back. The recoil that takes place is equivalent to a sudden vacuum. We have a combination of severe concussion of the brain plus the same condition that takes place in caisson disease, where one is in rarified atmosphere, producing æration of nitrogen bubbles into the blood. Comparing that with the cases we see suffering from concussion, we find them with all sorts of neuroses afterwards. Many of them, since these patients are suffering from shell concussion, have absolutely no recollection of what took place. I have had two cases in the Charity Hospital, one of them a boy, who, in crossing a track in front of a car, threw up his hands. The car knocked him down. He was taken to the hospital; he did not know anything of the accident, but the car hit him. Everything was a blank. Half an hour before that he left his place of business on an errand and he did not know what happened. Those who saw him say that he hallooed, trying to get off the track, but was knocked down.

If you make inquiry in cases of concussion of the brain and brain injury you often find they do not know anything of what happened to them. You take a man in the heat of battle, under great excitement, probably fear, and let such a severe concussion knock him out for several days, what is likely to be the state of the nervous system afterwards? In that highly excited state he is in a favorable condition for the development of all sorts of psychoses if grafted on a neurotic base.

There are many other explanations I could give you, but that puts an idea into your heads. I believe that shock taking place from a sudden blow on the head is an explanation of a great many of the phenomena we have in shell-shock or in shell concussion, because, from the great array of symptoms, the entire nervous system, spinal cord, as well as the higher centers, must be disturbed, and it is the only plausible explanation where the parts are involved, plus the physical disturbance that is taking place in one under great excitement and fear, and any other emotions he may have when this thing happens are enough to upset any man's reason.

Dr. C. S. Holbrook, Jackson (closing): I wish to express my thanks to Dr. Allen for his remarks, and I wish to say that the army medical organization is trying to prevent casualties from shell-shock or from shell concussion or the strain of war from becoming as prevalent as has been the experience in northern France. Dr. Allen has explained very clearly the prevalent idea of shell-shock, and I wish to thank him for elucidating it so nicely.

A RUNNING EAR.*

By GEORGE J. TAQUINO, M. D., New Orleans.

When one considers the seriousness of a running ear he appreciates the fact that too much cannot be said on the subject.

A running ear, or acute-suppurative otitis, is usually secondary to grippe, scarlet fever, measles, diphtheria, adenoids, whooping-cough, etc. And such a condition should be looked upon as serious. He cannot be sure of the severity of the condition or the possibilities of the invasion.

Generally speaking, a running ear is secondary to acute catarrhal otitis, and the exciting cause is the presence of microörganisms in the middle ear. The extension is through the Eustachian tube, followed by a rupture of the drumhead, with a flow of pus. This sometimes results in a cure, but usually the case requires care and watchful waiting.

The majority of cases are found in children, and are often influenced by changes which obtain in autumn and spring.

A feeling of heaviness, with headache; fullness and deafness in the affected ear, slight or excruciating pain, perhaps more pronounced and intense in children, indicate the onset. This is probably due to the presence of adenoids and hypertrophied tonsils. There may be a slight chill, followed by an elevation of temperature, which subsides as drainage is established.

The secretion may be muco-purulent or purulent. The quantity may vary at different times and one form of secretion may follow the other. The type which runs an irregular or intermittent course, pain occurring irregularly, is a dangerous type, for this may mean bone necrosis, with mastoiditis, sinus-thrombosis, brain-abscess or meningeal complication.

A running ear is also to be feared because of the sequelæ, and for this reason should receive immediate and scientific treatment. Some cases may terminate in a cure, but one must be chary at all times, as many of these so-called cures leave sequelæ, which may develop in after-years into a train of symptoms both dangerous and vital.

A running ear, whether in child or adult, should at all times be looked upon seriously and receive the very best of care, for the success or failure of our treatment may mean not only the health, but the very life of the patient.

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* Read at the 39th Annual Meeting, Louisiana State Medical Society, New Orleans, April 16, 17, 18, 1918.

Discussion on the Paper of Dr. Taquino.

Dr. J. T. Crebbin, New Orleans: The doctor is to be congratulated, first, on the brevity of his paper, and the few remarks I have to make will be more a reiteration than anything else.

We cannot emphasize too strongly the danger of a running ear. It is a dangerous thing, whether it occurs in childhood or adult life. As was brought out in one of the preceding papers, the condition was preceded by an acute catarrhal otitis. If this condition had received proper treatment, such as tympanotomy, it might have been aborted. By tympanotomy we mean complete tympanotomy from above downward, making use of an eliptical incision. If this is done it will abort most of these cases. Running ear is at all times a dangerous condition. You cannot tell, the patient cannot tell, the one who is treating the patient cannot tell the exact pathologic condition that exists. The patient, no matter whether it be a child or an adult, will go around, walk around the streets of the city, attending to their vocation, with a floating mine in their head. No one can tell when that mine may explode or the pathologic condition extend to the meninges or cause death itself. A running ear should be looked upon at all times as something dangerous and should receive the very best care. In this condition, heat in many instances should not be used. As a matter of fact, I do not think it should be used unless there be a condition of furunculosis. We should not think of using heat in such cases. We should consider the use of the ice-bag. The ice-bag will control the condition to some extent; it will allay suffering and allay the inflammatory condition to a great extent.

One of the points I wish to emphasize is that where the drainage goes on for a while and then discontinues, where there is some fever, you cannot depend on the rise or reduction of fever. It is not an infallible sign, because frequently we will find pronounced and severe involvement of the mastoid process with comparatively little fever, whereas the other may be the reverse; so do not depend too much upon fever, whether it goes up or down, but depend on other symptoms with which you are familiar. Where the drainage stops and where there is irregularity and it will commence again, you will have a dangerous condition to deal with. These cases, at all times, should be looked upon as demanding immediate and scientific treatment.

In regard to the treatment, the essayist did not mention it, except that we want to establish drainage as soon as possible, using irrigation freely and carefully, so as not to drive the muco-purulent discharge back into the middle ear more than what already exists. We have used silvol, or silver protein. I do not mention this name for the purpose of advertising it, but I have been using silver protein successfully and am getting good results.

Dr. William T. Patton, New Orleans: I believe this subject is too important to allow it to go by as lightly as we have done, because of the opinion held regarding it by many general practitioners. Many of these cases come to my office, and after examining them I have asked the question, "Have you been treated?" and the reply invariably is, "My doctor says it is all right; let the discharge run out, don't stop it." In other cases of running ears in children the parents are told that this condition must be expected during teething. It is a bad idea to talk of running ears. Some of them get well with prompt treatment. I believe 75 or 90 per cent of acute running ears can be successfully treated

if the patients are taken in hand early enough. When I speak of acute running ears I mean from two to three weeks or five or six weeks, and if they are treated in the first two or three weeks I believe they can be cured, but if left to run six months or a year very few of them can be cured. If we take cases in the first two or three weeks, under special treatment nearly all of them get well. By special treatment I do not mean irrigating the ears. That is the best thing you can do first, but keep them clean with normal salt solution, boric acid or some other solution. Probably bicarbonate of soda is as good as any. If we have enlarged tonsils and adenoids continually reinfecting the ear, the ear will never get well with irrigation. You have to remove the tonsils and adenoids, and, if you cannot do this, treat the tonsils and adenoids with solutions introduced in the nasopharynx. In infected adenoids and enlarged tonsils it is remarkable to see the improvement that takes place in two or three days after their removal. You will invariably see a dry ear in a short time.

I do not believe the paper spoke of running ears in adults. In adults you have a deviated septum in 75 per cent of the cases associated with the running ear. You can look at the nose and tell which ear is discharging. It will be the side on which there is a deviated septum, causing a chronic or acute condition of the Eustachian tube, which blocks up and prevents drainage of the ear. What is nature trying to do with the middle ear? By the Eustachian tube it drains the fluid into the middle ear and nasopharynx. You drain a small amount of fluid out of the middle ear into the nasopharynx, and in that way prevent trouble in the ear. We have a congestion of the Eustachian tube, due to adenoids, and obstruction of the septum, due to hypertrophy of the inferior turbinated or middle turbinated body, or some serious condition, so that the ear will not heal up. The little cilia back of the mucous membrane become diseased in the Eustachian tube and the cilia are prevented from working, the Eustachian tube becomes blocked, and a certain amount of secretion goes to the middle ear, and the first thing you know is that you have an acute condition and a vicious circle. The middle ear is being infected in one way and the fluid is coming out. We should treat the condition behind first. Local irrigation will help, but you have got to treat the cause of the condition; treat the nose and throat primarily, the ear secondarily, and you will get very few bad results from suppurating ears.

Dr. George J. Taquino, New Orleans (closing): Dr. Crebbin mentioned the fact that we should do tympanotomy. You cannot do tympanotomy too early in these cases. The drum ruptures through the process of necrosis, and the opening is closed by a process of scar tissue; whereas if we make an incision we have a good, clean cut, the drum getting back into position and no damage is done.

Dr. Crebbin mentioned regarding pain and elevation of temperature in conditions where the mastoid is involved. The temperature is not a guide, in any case, to a real involvement of the mastoid. For that reason also I believe in going back to tympanotomy. We should make the incision high up to get free drainage.

I agree with Dr. Crebbin in not using a hot-water bag. I use an ice-cap. It controls pain, and at the same time it seems to have an influence on the condition that is existing in the sinuses. He mentioned silvol and silver protein. Silvol contains proto-nucleoid. It is a carbolic acid coefficient and it is efficacious in these conditions.

With Dr. Patton's remarks I agree fully that we should begin treating or looking after the nasopharyngeal tract. I believe many of the conditions in the ear exist as a result of the conditions that prevail in the nose and throat. Septal deformities prevent proper ventilation and aeration of the nose and Eustachian tube, and have a tendency to produce a low-grade inflammation in the Eustachian tube, sometimes blocking the exit and sometimes the secretion goes into the middle ear, producing a running ear. The septum in all cases should be straightened. We should look for adenoids and diseased tonsils. These factors should be removed, for I think there lies the true etiological factor in producing a great many cases of running ear.

THE CROSS-EYED CHILD NEGLECTED.*

By J. HUME, M. D., New Orleans.

I wish to speak of a class of cases occupying a unique position in our medical literature—a class of cases fully and satisfactorily treated, as regards etiology, symptomatology, prognosis and treatment in our ophthalmic literature, and almost, if not entirely, ignored in that of the other great branches of medicine. I refer to the deviations of the eye from parallelism. Certainly it deserves more attention from the general practitioner than the past has accorded it, since proper advice during the period of its inception is essential to its successful treatment and as neglect of early attention is apt to result in an amblyopic eye. I trust you will not infer that I attribute it to carelessness on the part of the general practitioner, but rather to the fact that not enough attention has been given this important subject in the general literature of medicine, and especially in our text-books of pediatrics. Holt mentions squint as a stigma of degeneration and as a symptom of certain brain conditions. Other well-known works on pediatrics mention it not at all.

In the service of Dr. Dimitry at the Charity Hospital and in my own service at the Women's and Children's Dispensary I have during the past few months recorded quite a series of cases over ten years of age presenting themselves for treatment for the first time. Most of these patients stated they had been advised to wait until they were older, when an operation could be made that would straighten the eye—certainly advice that delayed treatment during the period when it would have been the most efficacious.

I believe authorities agree that up until the sixth month of life the motor coördination power of the ocular muscles keep the eyes

* Read at the 39th Annual Meeting, Louisiana State Medical Society, New Orleans, April 16, 17, 18, 1918.

approximately straight in the absence of any disturbing influences. At about this time the fusion centers begin to develop, and not until the end of the sixth year is this development complete. If during this period the visual acuity of the eyes is approximately the same, and with extra ocular muscles properly developed and enervated a condition of parallelism obtains, and as a consequence we have binocular vision. Should, however, there be any marked difference in the visual acuity or insufficiency of the ocular muscles, the effort of the developing fusion sense is retarded or the eye squints in order to prevent a diplopia. So it is between the sixth month and the sixth year that we find the greatest per cent of squint cases in their incipiency, and the proper period to begin their treatment, as every hour after the beginning of a squint lessens the chances of restoring a perfect visual acuity. Take the above cases, for example, presenting themselves for treatment at the age of ten. The visual acuity in the squinting eye is invariably low, the fusion centers undeveloped. You operate and are liable to get a successful cosmetic result, but a visual failure. Many of the cases taken between the ages of two and six could, by a proper refraction, have kept the eyes parallel and the visual acuity normal.

It is not my purpose to discuss the causes of deviations or their treatment, but rather to call attention to the fact that for some reason which we should search for and correct a majority of these cases are not given attention during the developmental period. Certainly, squint is not of such frequent occurrence as the adenoid, but, I venture to say if given half the publicity the latter has had, a few years would find a greatly reduced number of cross-eyed people. Most any mother can give you the symptoms of adenoids, but would be shocked when told her child of ten was practically blind in his squinting eye, and probably so as a result of neglected early attention. If we are able in any way to educate the public about cross eyes, as we have done about the adenoid, much could be accomplished toward conserving the vision of these unfortunates.

The oculists present all understand that I am only referring to a class of squint cases, a large class, however, and am not inferring that it is a simple problem with which we are dealing in every instance, and all realize, I believe, that the greatest problem is to get them for treatment at an early age.

My recommendations are educational:

First. That pediatrics should teach more about squint, it being in many instances a condition of early childhood.

Second. More publicity should be given the condition. Discussing it before mothers' clubs and child welfare associations, etc., would be an available means.

Third. More frequent papers presented to the various medical bodies by the oculists on the different phases of the subject.

Discussion on the Paper of Dr. Hume.

Dr. Arthur L. Whitmire, New Orleans: I think a great deal can be accomplished by the physician coöperating with the specialist. In my experience with the schools of New Orleans for two years I had occasion to observe 75,000 children each year, and I have been recommending them to be treated, and it was a rare exception to find a case where the parents did not coöperate with me. If the public health officers in the different towns and cities and parishes and inspectors of schools should recommend cases for treatment where the eyes are crossed, I am sure that the parents will be found ready to coöperate with them. This is very important, because children with cross eyes are overlooked until too late to get a desirable effect. We should coöperate with the general practitioner, because it is he who sees these cases first. We find that mothers do not want their babies to wear glasses, and that is another condition we have to contend with, and the general practitioner can do more in that respect, by referring these cases to a specialist for treatment and having the condition corrected, more than any other person.

Dr. T. J. Dimitry, New Orleans: If we could only get the cross-eyed baby early enough we could straighten the eyes in 50 per cent of the cases at least with glasses. We can fit infants with glasses, and infants will wear glasses, and they do not suffer as a consequence of wearing them. They are not broken so easily as one would suppose. They do not expose their eyes to the danger of having them injured by the wearing of glasses. The glasses will straighten their eyes, and in doing so it will prevent the eye that is turned in—that is not being used—from becoming blind in a great many cases. If these cases can be seen early, then we will not have to operate in at least 50 per cent of the cases. The earlier we see them, the better will be the results that we can obtain.

Dr. Hume's paper is most appropriate, for it will bring to you the importance of seeing these cases at the earliest possible moment and of not sending them to the specialist after damage is done.

Dr. J. Hume, New Orleans (closing): As to Dr. Whitmire's suggestions with regard to school boards, I think the findings of the school boards are valuable, yet it is much better to get these cases at an earlier period of life than we are getting them. It is better to get them at six years of age than at eight. The point of reaching these patients at as early a date as possible is a very valuable one.

In answer to the question relative to operation, I was referring at that time to cases that applied for treatment after ten years, with squinting eye in which the visual acuity was very low. Such an eye can be straightened by operation, but probably vision will not be benefitted. It may help it somewhat, but treatment will not be so satisfactory as if the operation was done much earlier, because you have left the eye squinting from the second to the sixth year. You have a period of five years in which it is turned away from natural fixation. If the eye was normal at the time of squinting, there would be reduction in vision That is what I meant by a good cosmetic result, and not visual.

NEWS AND COMMENT

THE CENTRAL GOVERNING BOARD OF THE VOLUNTEER MEDICAL SERVICE CORPS OF THE COUNCIL OF NATIONAL DEFENSE announces that the Louisiana State Executive Committee of the Volunteer Medical Service Corps is comprised of the following doctors:

Oscar Dowling, M. D.....Commercial St., Shreveport
Charles R. Mayer, M. D.....New Orleans
Charles Chassaignac, M. D., Chairman..211 Camp St., New Orleans
G. J. Sabatier, M. D.....New Iberia
R. G. McG. Carruth, M. D.....New Roads
J. B. Sewell, M. D.....Baldwin
R. L. Randolph, M. D.....Alexandria
J. C. Callan, M. D.....New Orleans
Ernest S. Lewis, M. D.....New Orleans
G. Farrar Patton, M. D., Secretary.....New Orleans

The purpose of this committee is to coöperate with the Central Governing Board in prosecuting all activities pertaining to the mobilization of an enrollment of members of the Volunteer Medical Service Corps throughout the State.

The Central Governing Board of the Volunteer Medical Service Corps also authorizes the appointment of one county representative in each county in every State of the Union. The parish representatives for Louisiana are as follows.

PARISH.	NAME.	CITY.
Acadia	Dr. E. M. Ellis	Crowley
Allen	Dr. C. Lewis Gaulden	Elizabeth
Ascension	Dr. T. H. Hanson	Donaldsonville
Assumption	Dr. W. H. Kittridge	Napoleonville
Avoyelles	Dr. Thos. A. Roy	Mansura
Beauregard	Dr. J. C. Miller	Bon Ami
Bienville	Dr. J. M. Moseley	Arcadia
Bossier	Dr. D. J. McAnn	Atkins
Caddo	Dr. J. C. Willis	Shreveport
Calcasieu	Dr. S. G. Kreeger	Lake Charles
Caldwell	Dr. I. B. May	Columbia
Catahoula	Dr. E. R. Yancey	Jonesville
Claiborne	Dr. C. C. Craighead	Athens
Concordia	Dr. W. H. Pugh	Wildsville
De Soto	Dr. S. D. Kearney	Pelican
East Baton Rouge	Dr. Chas. McVea	Baton Rouge
East Carroll	Dr. W. H. Hamley	Lake Providence
East Feliciana	Dr. E. M. Toler	Clinton
Evangeline	Dr. H. C. Milburn	Ville Platte

PARISH.	NAME.	CITY.
Franklin	Dr. A. J. Reynolds	Ft. Necessity
Grant	Dr. E. B. Gray	Colfax
Iberia	Dr. G. J. Sabatier	New Iberia
Iberville	Dr. G. A. Darcantel	White Castle
Jackson	Dr. A. E. Simonton	Jonesboro
Jefferson	Dr. C. F. Gelbke	Gretna
Jefferson Davis	Dr. N. S. Craig	Jennings
Lafayette	Dr. M. E. Saucier	Lafayette
Lafourche	Dr. C. J. Barker	Thibodaux
Lincoln	Dr. A. E. Fisher	Choudrant
Livingston	Dr. J. M. Ehlert	Springfield
Madison	Dr. H. C. Sevier	Tallulah
Morehouse	Dr. O. M. Patterson	Bastrop
Natchitoches	Dr. E. W. Breazeale	Campti
Orleans	Dr. Geo. F. Cocker and others	New Orleans
Ouachita	Dr. O. W. Cosby	Monroe
Plaquemines	Dr. H. L. Ballowe	Buras
Pointe Coupé	Dr. R. McG. Carruth	New Roads
Rapides	Dr. R. O. Simmons	Alexandria
Red River	Dr. C. E. Edgerton	Coushatta
Richland	Dr. H. C. Chambers	Girard
Sabine	Dr. J. M. Middleton	Many
St. Bernard	Dr. L. A. Ducros	St. Bernard
St. Charles	Dr. R. H. Johnson	Moberly
St. Helena	Dr. A. J. Newman	Montpelier
St. James	Dr. J. E. Doussan	Lutcher
St. John the Baptist	Dr. S. Montegut	Laplace
St. Landry	Dr. Jos. P. Saizan	Opelousas
St. Martin	Dr. P. H. Fleming	St. Martinville
St. Mary	Dr. Lewis B. Crawford	Patterson
St. Tammany	Dr. W. E. Van Zant	Mandeville
Tangipahoa	Dr. E. L. McGehee	Hammond
Tensas	Dr. J. Whitaker	St. Joseph
Terrebonne	Dr. L. J. Menville	Houma
Union	Dr. R. L. Love	Farmerville
Vermillion	Dr. C. J. Edwards	Abbeville
Vernon	Dr. D. O. Willis	Leesville
Washington	Dr. E. E. Lafferty	Bogalusa
Webster	Dr. R. C. Tompkins	Minden
West Baton Rouge	Dr. F. H. Carruth	Lobdell
West Carroll	Dr. C. W. Smith	Oak Grove
West Feliciana	Dr. E. M. Levert	Bayou Sara

General Plan.—The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors in the United States who have not yet been honored in the army and navy, and a representative board of gov-

ernors consisting of officials of the government associated with lay members of the profession, in which the civilian physician agrees to offer his services to the government if required and asked to do so by the governing board. It is a method of recording all physicians who are not yet in service and classifying them so that their services when required will be utilized in a manner to inflict as little hardship on the individual as possible. It is a method by which every physician not in uniform will be entitled to wear an insignia which will indicate his willingness to serve his government. As more than 60 per cent of the physicians of the country will be utilized in caring for the industries at home and the health of the home people, this large percentage of necessity will be expected to maintain their home status and continue their ordinary professional work.

Conferences on Tuberculosis.—The National Tuberculosis Association announces that it has plans under way for five conferences, covering the country in geographic sections, to consider practical measures for coping with tuberculosis as a war problem. The questions discussed will be the means of providing adequate care for the thousands of soldiers and sailors already discharged from the army and navy on account of tuberculosis, and rejected in the draft for the same reason, and also the question of educating the civilian population more fully regarding tuberculosis during the war. The future conferences are to be held as follows: Denver, October 2-4; Birmingham, Ala., October 11-12; Pittsburgh, October 17-18; Providence, R. I., October 25-26. All health officers, dispensary physicians, visiting nurses and others interested are urged to attend.

Meeting of Military Surgeons of the United States.—The annual meeting of the Association of Military Surgeons of the United States will be held at Camp Greenleaf, Fort Oglethorpe, Ga., October 13, 14 and 15, under the presidency of Dr. Geo. A. Lung, Medical Director in the United States Navy.

Officers for the American Association of Anesthetists.—At their sixth annual meeting in Chicago in August, 1918, this association elected Major W. B. Howell, C. A. M. C., Montreal, Canada, president, and Dr. F. H. McMechan, Avon Lake, Ohio, secretary-treasurer.

The College of Medicine, Tulane, opened for the session on September 23. The matriculation in the School of Medicine and

the School of Dentistry promises to be unusually large. It is too early to estimate that of the Graduate School of Medicine (New Orleans Polyclinic). The School of Tropical Medicine is discontinued for the duration of the war.

Havana Honors Dr. Arteaga.—One of the wards of the new Garcia Hospital at Havana has been named in honor of Dr. Serapio Arteaga, a leading obstetrician of Havana in his day and professor of gynecology and obstetrics in the university. His portrait was installed with much ceremony in the new ward recently. His son is editor of the *Revista de Medicina y Cirugia.*

Census Gives Cancer Increase.—The latest returns of the United States Census on cancer and other malignant tumors show 58,000 deaths in 1916. Of these, 22,480, or nearly 39 per cent, resulted from cancers of the stomach and liver. The death rate from cancer has risen from 60 per 100,000 in 1900 to 81.8 in 1916. According to the authorities, it is possible that at least a part of this increase is due to more correct diagnosis and to greater care on the part of physicians in making reports.

Flight Surgeons.—Plans have been elaborated to supervise the period of rest, recreation and duty of aviators and candidates, so as to get the best results. A corps of surgeons and physical trainers will be assigned each aviation field and camp for this work. The surgeon so assigned will be known as "flight surgeon."

According to the Army and Navy Authorities, nearly 50,000 doctors will be required for war service eventually. It is proposed, in order to prevent the disorganizing of the teaching staffs of the medical schools, to commission all teachers and assign them to their present duties. It is estimated of the 143,000 doctors in the United States that between 80,000 and 95,000 are in active practice and that 23,000 are in the army or navy.

Correspondence School for Pharmacists.—The Bureau of Medicine and Surgery of the Navy is conducting a correspondence school for naval pharmacists, the course being in charge of Surgeon Henry L. Dollard, U. S. N. The benefits of the school are open to all pharmacists and chief pharmacists, permanent, temporary and of the reserve. The course is so conducted that every pharmacist taking it gets the benefit of the experience of the other students.

Mosquitoes Banished From Hog Island.—By draining a marsh twenty-five miles long, at a cost of $250,000, the officials of the United States Shipping Board believe that Hog Island, now the center of a vast shipbuilding industry, is effectively rid of mosquitoes. New Jersey, since witnessing this achievement, has decided to spend $150,000 to drain the Newark meadows.

Convention of Sanitarians.—Under the auspices of the American Public Health Association, a convention of sanitarians of the United States and Canada will be held in Chicago, October 14-17. Papers will be presented on laboratory, internal hygiene, vital statistics, food and drug, sanitary engineering, sociologic and general health administration subjects. Governors of States and mayors of cities have been requested to send their health officers to this conference. Further information will be furnished by A. W. Hendrich, secretary of the American Public Health Association, 1041 Boylston street, Boston.

New Physiologic Journal.—The first number of the *Journal of General Physiology* made its appearance on September 20. This journal will appear bi-monthly and is intended to serve as an organ for publication of papers devoted to the investigation of life processes from the physiochemical point of view. The editors are Dr. Jacques Loeb, of the Rockefeller Institute for Medical Research, and Prof. W. J. V. Osterhout, of Harvard University. The subscription price is $5 a volume and subscriptions should be sent to the *Journal of General Physiology,* Publication Department, the Rockefeller Institute for Medical Research, Sixty-sixth street and Avenue A, New York City.

Reconstruction.—This is the title of a periodical devoted to the reconstruction of disabled soldiers and sailors, published monthly at Ottawa, Canada, by the Department of Soldiers' Civil Reëstablishment. It is similar in scope to *Carry On,* a monthly periodical issued from the office of the Surgeon General, Washington, D. C.

Chiropodists in the Army.—According to announcement from the War Department, chiropodists taken into the army will be transferred directly to the medical department and either assigned immediately to the various camps for duty under the camp surgeon, or first sent to Camp Greenleaf for further training under the regular orthopedic instructors. On the demonstration of proper

skill and attainments, they may be advanced to the grade of sergeant. A canvass of the camps is now being made to determine the need of this service.

Dr. Abraham Jacobi has accepted the office of honorary president of the Friends of German Democracy, an organization of Americans, mostly of German descent, who favor the destruction of Hohenzollern rule.

The War Department will station at Tulane University a regular army officer to be in charge of the men enrolled in both sections of the Student Army Training Corps. The officer in command will pass judgment upon men in Tulane and will decide which students shall be retained for training in technical subjects and which sent to camps for private training. The subjects taught and the time to be devoted to military drill is dictated by the War Department.

To Enlarge Marine Hospital at New Orleans.—Seven or eight new buildings are to be added to the United States Marine Hospital at New Orleans, making it one of the best in the country. The additions planned will cost between $200,000 and $250,000. The plans are already drawn and the additions will be rushed and, when completed, will have facilities for taking care of not only the navy's sick, but of the sick of the merchant marine as well.

Loyola Hospital Unit Arrives in Italy.—A cablegram was received the latter part of August from Genoa, Italy, announcing the safe arrival of the Loyola Hospital Unit No. 102, which left the United States for Italy about three weeks earlier.

Personals.—Major Seale Harris, editor of the *Southern Medical Journal,* Birmingham, Ala., is now stationed at 12 Place Vendome, Paris, where he is on hospital duty.

Major Isadore Dyer, New Orleans, after nearly two months' work in the Surgeon General's office, where he was called for duty, has returned.

Dr. Joseph F. Baldwin, M. C., former intern at Touro Infirmary and a graduate of Tulane College of Medicine, 1915, was killed while on trench duty in France attending the wounded.

Among the doctors of New Orleans who have returned from their vacation and resumed practice are: Drs. Chas. Chassaignac, Joseph Conn, J. P. Wahl, Chas. A. Borey, O. F. Ernst, John F. Oechsner, Henry N. Blum, J. Brown Larose, Isidore Cohn, Marcus Feingold, J. W. Cirino and H. E. Nelson.

Dr. A. S. J. Hyde, of Baton Rouge, La., is serving in Development Battalion, Camp Wheeler, Macon, Ga., with the rank of first lieutenant.

A card was recently received by the JOURNAL announcing the safe arrival overseas of Lieut. Theodore T. Batson, Base Hospital 86, A. E. F.

REMOVALS.—Dr. F. P. Vines, from Hot Springs to Bauxite, Ark.
Dr. Wm. H. Block, to 710 Maison Blanche Building.
Dr. D. C. McCuller, from Fisher to Grand Cane, La.
Dr. W. P. Perkins, from Leesville, La., to Beaumont, Texas.
Dr. G. F. Roeling, of New Orleans to Camp Hancock, Ga.

MARRIED.—On July 30, 1918, Capt. John Gano McLaurin, M. C., U. S. A., of Dallas, Texas, to Miss Lucy Warren Coke. Capt. McLaurin is a Tulane alumnus.

BOOK REVIEWS AND NOTICES

All new publications sent to the JOURNAL *will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the* JOURNAL *to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.*

Surgery and Diseases of the Mouth and Jaws, by Vilray Papin Blair, A. M., M. D., F. A. C. S. C. V. Mosby Company, St. Louis, Mo., 1917.

This volume is a timely and instructive publication, rewritten and brought up to date, containing the latest information and methods of treatment learned on the battle front of Europe. It well merits the distinction, enjoyed by few books, of having the official endorsement of the Surgeon General of the United States Army.

The text is arranged in forty-six chapters, which present the infections, injuries, tumors, congenital and acquired deformities and diseases of the mouth, jaws and surrounding parts, with their medical and surgical treatment.

The chapters on the treatment of fractures are particularly good, also those on cleft palate and hare-lip. The chapters on cancer of the lip and tongue are especially thorough and interesting, expressing the latest opinions concerning these affections. The diseases of the teeth and gums are presented in a well-written chapter. In the chapter on hemorrhage, shock and allied complications, there is much of interest, but here, it did not appear to the reviewer, that the danger of ligating the common carotid artery was sufficiently emphasized, and the use of the Matas band for vascular occlusion, so valuable here, has been overlooked, but in one of the final chapters on ligation and temporary constriction of arteries this danger is prominently presented.

Among the final chapters, those on facial spasm and tic douloureux

are particularly interesting, although the description of the methods for injecting the several branches of the fifth nerve are lacking in detail, and it does not seem that the best methods have always been adopted; but this is more than compensated for by the operative procedures, particularly that upon the gasserian ganglion, which show a thoroughness which is quite refreshing.

It is not unreasonable to expect a few errors in a book of this scope, revised under the conditions which must have prevailed in bringing it up to date, with the latest methods approved on the battle front. Of these, the reviewer has noticed several, but two of which deserve mention. On page 170 the **posterior** palatine nerve is named, instead of **anterior** palatine. In the latter part of the book the words "perineurial" and "intraneurial" are repeatedly used, instead of perineural and intraneural. These errors are unfortunate, but in no wise detract from the merits of the volume, which should be in the hands of all interested in this field of work. CARROLL W. ALLEN.

Syphilis and Public Health, by Lieut.-Col. Edward B. Vedder, A. M., M. D. Lea & Febiger, Philadelphia and New York, 1918.

A most timely and instructive publication, it is divided into four chapters, covering: 1, The Prevalence of Syphilis; 2, The Sources of Infection and Methods of Transmission; 3, Personal Prophylaxis; 4, Public Health Measures. There is also an appendix, some of the contents of which are of doubtful utility, as the technic of the Wassermann test; within the limited space there is nothing practical which can be taught about it.

The whole subject is thoroughly discussed and, while the author has no hesitation in expressing his opinion frankly, he is broad enough to outline the other side, thus enabling the reader to reach his own conclusion, which in some instances need not be exactly that of Col. Vedder. It is true, however, that the reviewer is prepared to agree with him on most points, and unqualifiedly otherwise recommends the book to all those interested in the question it handles—and that should be all physicians, at least. C. C.

Treatise of Cystoscopy and Urethroscopy, by Dr. George Luys, translated by A. L. Wolbarst, M. D. C. V. Mosby Company, St. Louis, Mo., 1918.

This is an important work of nearly four hundred pages, written by a master of French urology, a man of large experience who knows how to tell what he has to say and is willing to go into sufficient details. Thus it becomes useful, not only to the student who must be gradually inducted into the art of urethroscopy and cystoscopy, but as well to those who, while already practicing the art, can be introduced to some new ideas and new applications. It is pre-eminently the author's purpose to teach and illustrate the direct vision cystoscopy, which he favors and which is not as generally accepted and practiced in this country as the prismatic, although both are considered.

The translator, who had no small task ahead of him, has done his work admirably and could not have failed, considering not only his ability, but his two-fold purpose in undertaking it, "to bring to American and other English-speaking urologists the message which Luy's book bears" and to "express in concrete form the love and affection" of the translator for France.

The illustrations are fine, 217 in black and white and 24 color plates,

the latter being exceptionally well-done. Printed on heavy paper, with large type, the book is a fine specimen of typographic art.

Author, translator, publisher—all are to be congratulated. C. C.

PUBLICATIONS RECEIVED

C. V. MOSBY COMPANY, St. Louis, 1918.

Nursing in Diseases of Children, by Chas. G. Leo-Wolf, M. D.

Surgical and War Nursing, by A. H. Barkley, M. D., F. A. C. S.

Hygiene for Nurses, by Nolie Mumey, M. D.

A Textbook of Physiology for Nurses, by Wm. Gay Christian, M. D., and Chas. C. Haskell, M. A., M. D.

W. B. SAUNDERS COMPANY, Philadelphia and London, 1918.

The Medical Clinics of North America. May, 1918. Index Number.

P. BLAKISTON'S SON & CO., Philadelphia, 1918.

War Surgery of the Abdomen, by Cuthbert Wallace, C. M. G., F. R. C. S., M. D., B. S.

LEA & FEBIGER, Philadelphia and New York, 1918.

Military Surgery of the Zone of the Advance, by Geo. de Tarnowsky, M. D., F. A. C. S.

THE YEAR BOOK PUBLISHERS, Chicago, 1918.

The Practical Medicine Series. Volume III: **The Eye, Ear, Nose and Throat.** Edited by Casey A. Wood, C. M., M. D., D. C. L.; Albert H. Andrews, M. D., and Geo. E. Shambaugh, M. D.

GOVERNMENT PRINTING OFFICE, Washington, D. C., 1918.

Public Health Reports. Vol. 33, Nos. 32, 33 and 34.

MISCELLANEOUS:

On the Fringe of the Great Fight, by Col. Geo. G. Nasmith, C. M. G. (Geo. H. Doran Company, New York, 1918.)

REPRINTS.

Speech-Reading for the War Deaf, by Clarence John Blake, M. D.; **The Partially Deaf Child: A School Problem**, by John D. Wright; **Things Are Not Always What They Seem**, by Alice N. Trask; **The Serviceability of Visible Speech**, by Chas. W. Kidder; **The "Conscientious Objector,"** by Louise I. Morgenstern. (The Volta Bureau, 1601 Thirty-fifth street, N. W., Washington, D. C.)

Algunas Notas Sobre la Filariasis, por A. Martinez Alvarez, M. D.

Mortality Among Women from Causes Incidental to Child-Bearing, by Louis I. Dublin, Ph. D.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for August, 1918.

CAUSE.	White.	Colored.	Total.
Typhoid Fever	9	8	17
Intermittent Fever (Malarial Cachexia)	2	------	2
Syphilis	------	------	------
Pellagra	------	------	------
Scarlet Fever	------	------	------
Whooping Cough	13	4	17
Diphtheria and Croup	4	------	4
Influenza	1	------	1
Cholera Nostras	------	------	------
Pyemia and Septicemia	------	1	1
Tuberculosis	38	48	86
Cancer	22	9	31
Rheumatism and Gout	4	1	5
Diabetes	4	3	7
Alcoholism	------	------	------
Encephalitis and Meningitis	------	2	2
Locomotor Ataxia	------	------	------
Congestion, Hemorrhage and Softening of Brain	19	10	29
Paralysis	2	------	2
Convulsions of Infancy	------	1	1
Other Diseases of Infancy	16	11	27
Tetanus	------	1	1
Other Nervous Diseases	1	1	2
Heart Diseases	30	43	73
Bronchitis	------	------	------
Pneumonia and Broncho-Pneumonia	12	15	27
Other Respiratory Diseases	1	1	2
Ulcer of Stomach	------	1	1
Other Diseases of the Stomach	2	------	2
Diarrhea, Dysentery and Enteritis	23	15	38
Hernia, Intestinal Obstruction	5	3	8
Cirrhosis of Liver	7	1	8
Other Diseases of the Liver	2	1	3
Simple Peritonitis	------	------	------
Appendicitis	8	2	10
Bright's Disease	16	13	29
Other Genito-Urinary Diseases	13	17	30
Puerperal Diseases	5	4	9
Senile Debility	3	------	3
Suicide	3	------	3
Injuries	28	16	44
All Other Causes	18	17	35
TOTAL	311	249	560

Still-born Children—White, 27; colored, 17; total, 44.

Population of City (estimated)—White, 276,000; colored, 102,060; total, 378,000.

Death Rate per 1,000 per Annum for Month—White, 13.32; colored, 29.73; total, 17.50. Non-residents excluded, 14.22.

Mean atmospheric pressure	30.04
Mean temperature	82
Total precipitation	6.19 inches

Prevailing direction of wind, southeast.